

REMARKS/ARGUMENTS

I. Status of Claims

Claims 1-10 are pending of which claims 1 and 6 are independent. No claims are amended, cancelled or added herein.

II. Rejections under 35 U.S.C. §102(b)

Claims 1, 2, 4, 6, 7 and 9 are rejected under 35 U.S.C. §102 (b) as allegedly being anticipated by U.S. Publication No. 2001/0006515 to Lee et al. (hereinafter Lee). Applicants respectfully traverse the rejection.

Claim 1 recites “a code generator for generating a synchronization code used in the determined system mode in response to the system mode select signal” and “a controller for determining a system mode of a current Node B to which the UE belongs between the first system mode of the first Node B and the second system mode of the second Node B.” Hence, claim 1 claims the subject matter of a code generator for generating a synchronization code used in **the system mode determined between the first system mode and the second system mode** in response to the system mode select signal. Applicants respectfully submit that Lee does not disclose, teach, or suggest this subject matter.

Lee is directed to a method for performing a handoff from an asynchronous base station to a synchronous base station. In particular, the method involves: 1) the step of the mobile station driving the sync demodulation for a given idle to acquire and maintain the timing of the synchronous base station during an operation in the cell of the asynchronous base station; 2) the step of measuring in the mobile station the strengths of pilot signals from adjacent synchronous base station based on the acquired timing, and sending the measurement results to the asynchronous base station; 3) the step of receiving in the mobile station from the asynchronous base station information necessary to establish a traffic channel with the synchronous channel; and 4) the step of performing handoff in the mobile station to the

synchronous base station according to the information received from the asynchronous base station. See abstract, claim 1 and Fig. 5 of Lee.

Among the above-described four steps, only the first step, which is the step of the mobile station driving the sync demodulation for a given idle to acquire and maintain the timing of the synchronous base station during an operation in the cell of the asynchronous base station, appears to have anything to do with generating a synchronization code. Concerning this first step, as disclosed in Lee, only PN Generator 407 is relevant to generating a synchronization code.

However, PN Generator 407 is disclosed to generate PN code used in only the synchronous system mode. See paragraph [0052], lines 8-14 of Lee. In other words, PN Generator 407 is not disclosed to be capable of generating **two types of synchronization codes**, with one type of synchronization code being used in the asynchronous system mode, and the other type of synchronization code being used in the synchronous system mode. Hence, PN Generator 407 is not disclosed as for generating a synchronization code used in the system mode determined between the first system mode and the second system mode in response to system mode select signal, as claimed.

In addition, PN Generator 407 is also not disclosed to generate a synchronization code used in one of the two different system modes **in response to the system mode select signal**. This is because, as clearly shown in Fig. 4 of Lee, the only input signals that PN Generator 407 receives are 1) the output signal generated from PLL 411 and 2) the output signal generated from RF/IF 405, **neither of which is a system select signal that is used to select a system mode**. Simply stated, Lee does not disclose, teach, or suggest a select signal inputted into PN Generator 407 so as to cause PN Generator 407 to generate a synchronization code used in one particular system mode selected between a synchronous system mode and an asynchronous system mode. Accordingly, Lee does not disclose, teach, or suggest a code generator for generating a synchronization code used in the system mode determined between

the first system mode and the second system mode **in response to the system mode select signal**, as claimed.

The Examiner nonetheless points to paragraph [0052], lines 8-14 and paragraph [0053], lines 1-8 and 19-26 as inherently disclosing the code generator as claimed. Applicants respectfully disagree with the Examiner's assessment. Specifically, paragraph [0052], lines 8-14 states the following:

“The second baseband processor 406 also provides a reference clock to the local generator 409 via the switch 408. The second baseband processor 406 includes a PN generator 407 and **operates according to the timing of the sync system** acquired for a given time period during communication with the async system in the present invention. The operation of the PN generator 407 continues even while the mobile station is in communication with the async system.”
(emphasis added)

Evident from the highlighted text above, PN Generator 407 only **operates according to the timing of the sync system**, albeit acquired for a given time period **during communication with the async system**. Hence, PN Generator 407 can only be construed as a code generator for generating a synchronization code used **only in the sync system** *during communication with the async system*. In particular, “async system”, as a term, is only mentioned in the context of the timing during which PN Generator 407 operates. Nowhere in this excerpt, however, does Lee disclose, teach, or suggest PN Generator is capable of generating two types of synchronization codes, with one type of synchronization code being used in the asynchronous system mode, and the other type of synchronization code being used in the synchronous system mode. Accordingly, the above-quoted excerpt does not disclose, teach, or suggest a code generator for generating a synchronization code used in the system mode determined between the first system mode and the second system mode in response to the system mode select signal, as claimed.

Similarly, paragraph [0053], lines 1-8 and lines 19-26 of Lee merely teaches using switches 401 and 408 to either select the DS module (asynchronous system) in order to communicate with the asynchronous system or select the MC module (synchronous system) to acquire the timing of the synchronous system. Specifically, **neither DS module nor MC module is a code generator**, although MC module includes PN Generator 407, which, as discussed above, generates synchronous codes used only in the synchronous system. In particular, signals generated by switches 401 and 408 are shown as input signals into either the DS module or the MC module, rather than into PN Generator 407. Hence, signals generated by switches 401 and 408, however, are not shown as input select signals into a code generator, such as PN Generator 407, so as to cause the **generation of a synchronization code** used in one particular system mode selected between a synchronous system mode and an asynchronous system mode. Hence, **signals generated by switches 401 and 408 are not system mode select signals that are used by a code generator to generate a synchronization code used in a particular system mode.**

Accordingly, paragraph [0053], lines 1-8 and lines 19-26 of Lee also fails to disclose, teach, or suggest a code generator a code generator for generating a synchronization code used in the determined system mode in response to the system mode select signal, as recited in claim 1.

It is worth nothing that Lee, at best, only discloses, teaches or suggest generating a synchronization code **only used in the synchronous system mode**. In fact, nowhere does Lee disclose, teach, or suggest generating a synchronization code **used in the asynchronous system mode**. This is because Lee is only concerned with performing a handoff **from an asynchronous base station to a synchronous base station**, during which generating a synchronization code used in an asynchronous system is not needed. Lee, however, is not concerned with the **opposite direction** of performing a handoff **from a synchronous base station to an asynchronous base station**, during which generating a synchronization code used in an asynchronous system may become necessary. Accordingly, it is not surprising that Lee only disclose

a code generator, namely, PN Generator 407, which generates synchronization codes used only in the synchronous system.

To summarize, although Lee is directed to a method that involves both a synchronous system and an asynchronous system, Lee does not disclose, teach, or suggest a code generator a code generator a code generator for generating a synchronization code used in the determined system mode in response to the system mode select signal, as claimed. Accordingly, the anticipatory rejection of claim 1 should be withdrawn.

Claim 6 contains similar recitations to claim 1 with respect to “generating a synchronization code used in the determined system mode in response to the system mode select signal.” As discussed above in connection with claim 1, Lee does not disclose, teach, or suggest the above-quoted subject matter. Accordingly, the anticipatory rejection of claim 6 should also be withdrawn.

The rejection of claims 2, 4, 7 and 9 should also be withdrawn by virtue of their dependency from allowable claims 1 and 6 respectively.

III. Rejections under 35 U.S.C. §103 (a)

Claims 3 and 8

Claims 3 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee in view of U.S. Publication No. 2002/0032692 to Suzuki et al. (hereinafter Suzuki). Applicants respectfully traverse the rejection.

Claims 3 and 8 depend from independent claims 1 and 6, and thus inherits all the limitations of claims 1 and 6. Suzuki is cited merely for disclosing secondary features. Suzuki, however, does not cure the deficiency of Lee with respect to a code generator for generating a synchronization code used in the determined system mode in response to the system mode select signal. Accordingly, Applicants need not further

discuss Suzuki in relation to the patentability of claims 3 and 8, and claims 3 and 8 should be allowable over Suzuki and Lee. The rejection of claims 3 and 8 should therefore be withdrawn.

Claims 5 and 10

Claims 5 and 10 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lee in vie of U.S. Publication No. 2002/0031169 to Lipponen et al. (hereinafter Lipponen). Applicants respectfully traverse the rejection.

Claims 5 and 10 depend from independent claims 1 and 6, and thus inherits all the limitations of claims 1 and 6. Suzuki is cited merely for disclosing secondary features. Lipponen, however, does not cure the deficiency of Lee with respect to generating a synchronization code used in the determined system mode in response to the system mode select signal. Accordingly, Applicants need not further discuss Lipponen in relation to the patentability of claims 5 and 10, and claims 5 and 10 should be allowable over Suzuki and Lee. The rejection of claims 5 and 10 should therefore be withdrawn.

Further, claims 5 and 10 are also patentable for their own patentable features. Specifically, claim 5 recites:

a register unit having a second number of registers necessary for generating a synchronization code used in the second system mode, the register unit operating such that a feedback value is input to a first number of shift registers necessary for generating a synchronization code used in the first system mode or to a second number of shift registers necessary for generating a synchronization code used in the second system mode, according to a predetermined control generated by the system mode select signal corresponding to the determined system mode;

a synchronization code mask unit for masking a mask value for generating the synchronization code used in the determined system

mode, to a shift register value according to the predetermined control;
and

a feedback controller for determining a register feedback tap of the register unit for generating the synchronization code used in the determined system mode according to the predetermined control, and inputting the feedback value to a shift register corresponding to the determined system mode.
(emphasis added).

Claim 10 contains similar recitations.

The features recited in claim 5 are illustrated in Figs. 9, 10A and 10B of the present application relating to at least a register unit, a synchronization code mark unit and a feedback controller. In particular, the register unit is recited as operating such that a feedback value is input to a first number of shift registers necessary for generating a synchronization code used in the first system mode or to a second number of shift registers necessary for generating a synchronization code used in the second system mode.

As reasoned in the Response filed July 26, 2007, Lipponen fails to disclose, teach, or suggest such a register unit. In particular, even without regard to the functional aspect of generating a synchronization code used in a particular system mode, the LFSR (linear feedback shift register) disclosed in Lipponen is not shown as having **a feedback value** inputted to **a first number of shift registers** or to **a second number of shift registers**. As clearly shown in Fig. 2C, a feedback value, which appears to be result signal 288 generated by the XOR operation 284, only goes into register 272, that is at the left end of the LFSR. Hence, Lippon only teaches having a feedback value inputted to one fixed number of shift registers, which is 5 when counting registers 272, 274, 276, 278 and 289, rather than a feedback value inputted to **a first number of shift registers** or to **a second number of shift registers**, as illustrated in Fig. 9 of the present application, with the first number of shift registers

being 14 and the second number of shift registers being 18. Accordingly, Lipponen fails to disclose, teach, or suggest the register unit as claimed.

In the section "Response to Arguments" of the Final Office Action, the Examiner, however, appears to cite register 1 (272) and register 5 (280), as disclosed in Lipponen, as teaching a first number of shift registers and a second number of shift registers. However, as discussed above, claim 5 does not just merely recite a first number of shift registers or a second number of shift registers. Rather, claim 5 recites "such that a feedback value is input to a first number of shift registers" or "to a second number of shift registers". Even though register 1 and register 5 are two different registers, register 1 is the sole register into which a feedback value is input. Accordingly, the Examiner's contention concerning register 1 and register 5 is misplaced.

Similarly, as reasoned in the Response filed July 26, 2007, Lipponen also fails to disclose, teach, or suggest the synchronization code mask unit as claimed. Specifically, the synchronization code mask unit is recited as "for **masking a mask value** for generating the synchronization code used in the determined system mode, **to a shift register value** according to the predetermined control." Although Lipponen mentions a "pre-stored" mask register (see paragraphs [0056]-[0059]), such mask register is not EVEN disclosed as for **masking a mask value to a shift register value**, such as the aforementioned LFSR, much less for masking a mask value for generating the synchronization code used in the determined system mode, to a shift register value according to the predetermined control. Accordingly, Lipponen also fails to disclose, teach, or suggest the synchronization code mask unit as claimed.

Further, nowhere does Lipponen disclose, teach, or suggest a feedback controller for determining a register feedback tap of the register unit for generating the synchronization code used in the determined system mode according to the predetermined control, and inputting the feedback value to a shift register corresponding to the determined system mode. Applicants respectfully submit that the

Examiner did not address in detail Applicants' argument with respect to the above-stated deficiency of Lipponen regarding the feedback controller in the Final Office Action, and thus fails to present a *prima facie* case concerning the feedback controller as claimed.

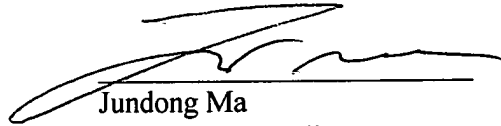
Accordingly, Lipponen discloses, teaches, or suggests none of the register unit, the synchronization code mask unit and the feedback controller recited in claim 5. Accordingly, not only is claim 5 allowable by virtue of its dependency from allowable claim 1, but claim 5 should also be allowable by its own patentable features discussed above. Claim 10 contains similar recitations of claim 5. Hence, claim 10 is also believed to be allowable not only by virtue of its dependency from allowable claim 6 but by its own patentable features as well. Accordingly, the rejection of claims 5 and 10 under 35 U.S.C. 103 (a) should therefore be withdrawn.

IV. Conclusion

In view of the above, it is believed that this application is in condition for allowance and notice to this effect is respectfully requested. Should the Examiner have any questions, the Examiner is invited to contact the undersigned at the telephone number indicated below.

Should any/additional fees be required, the Director is hereby authorized to charge the fees to Deposit Account No. 18-2220.

Respectfully submitted,



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